

Serial No. 10/025,055

Page 2 of 15

IN THE CLAIMS:

Please consider the claims as follows:

1. (currently amended) Apparatus for use in a headend system, the apparatus comprising:

means for receiving a plurality of separate MPEG input streams;

means for merging the plurality of separate input streams and outputting a merged stream that is capable of being processed by a single PID processor in a television converter apparatus;

wherein the plurality of input streams include a first stream having NET PID data and a second stream having headend management system polling data.

2. (cancelled)

3. (original) The apparatus of claim 1, wherein at least one of the input streams contains DCII data.

4. (original) The apparatus of claim 3, wherein at least one DCII packet is split in at least two portions across at least two MPEG-2 packets within one of the at least two input streams.

5. (original) The apparatus of claim 4, wherein the merging means does not insert the packets from another one of the plurality of input streams between any of the at least two portions of the DCII packet.

6. (original) The apparatus of claim 4, wherein the merging means does not insert a second DCII packet between any of the at least two portions of the DCII packet.

7. (original) The apparatus of claim 4, wherein the merging means excludes from the merged stream any received packets that precede a first packet having a

445632-1

Serial No. 10/025,055

Page 3 of 15

start bit that is set.

8. (original) The apparatus of claim 3, wherein:

the plurality of input streams include a stream containing headend management system polling data and a NET PID data stream, the NET PID data stream including at least one DCII packet that is split into at least two portions in at least two respective MPEG packets; and

the merging means does not insert the headend management system polling data between any of the at least two portions of the DCII packet.

9. (original) The apparatus of claim 1, wherein the merging means include a state machine.

10. (original) The apparatus of claim 9, wherein the state machine is initialized in a state in which the merging means does not insert packets of a first one of the input streams between contiguous packets of a second one of the input streams.

11. (original) The apparatus of claim 1, further comprising second merging means for merging a second plurality of separate input streams and outputting a second merged stream that is capable of being processed by a single PID processor in a television converter apparatus, wherein:

a first one of the input streams that is to be received by a first PID processor in the television converter apparatus is received by the first merging means;

the first merging means transmits the data from the first input stream to the second merging means within a first output data stream having a datum indicating that the first output data stream is to be received by a second PID processor in the television converter apparatus;

the second merging means merges the first output data stream with a second one of the plurality of input streams that is to be received by the first PID processor in the television converter apparatus to form a second output data stream; and

the second merging means transmits the second output data stream

445632-1

Serial No. 10/025,055

Page 4 of 15

containing data from the first and second input streams to the first PID processor.

12. (original) The apparatus of claim 1, wherein the receiving means include a plurality of user datagram protocol network ports.

13. (original) The apparatus of claim 1, wherein the merging means include a respective PID buffer for each one of the input streams.

14. (original) The apparatus of claim 13, wherein each PID buffer includes a buffer state machine that tracks a DCII packet completion state for the input stream corresponding to that PID buffer.

15. (original) The apparatus of claim 13, wherein:
the merging means further comprises an output filter, and
only one of the PID buffers at a time transmits data from its corresponding input stream to the output filter.

16. (original) The apparatus of claim 15, wherein the one of the PID buffers that is currently transmitting data to the output filter continues to transmit data until transmission of a DCII packet is completed.

17. (original) The apparatus of claim 16, wherein:
an end of the DCII packet is contained within an MPEG packet; and
the one of the PID buffers that is currently transmitting data to the output filter continues to transmit data to the output filter after transmission of the DCII packet is completed, if a second DCII packet begins within the same MPEG packet as the DCII packet.

18. (original) The apparatus of claim 16, wherein a next one of the PID buffers begins to transmit data to the output filter when an end of a DCII packet contained within an MPEG packet is transmitted to the output filter, if the MPEG packet does not contain the start of a second DCII packet immediately following the DCII packet.

445632-1

Serial No. 10/025,055

Page 5 of 15

19. (original) The apparatus of claim 15, wherein the output filter rennumbers an MPEG PID value of the merged stream.

20. (original) The apparatus of claim 15, wherein the output filter provides the merged stream to one of the group consisting of a network user datagram protocol address/port, a serial port, or a STDOUT.

21. (currently amended) A system comprising:
a headend system, comprising:
means for receiving a plurality of separate MPEG input streams;
means for merging the plurality of separate input streams and outputting a merged stream; and
a television converter apparatus that receives the merged stream, the television converter apparatus including a plurality of PID processors, wherein one of the PID processors processes the merged stream;
wherein the television converter apparatus is programmed to receive headend management system polling data via a PID processor that is also used to receive NET PID data.

22. (cancelled)

23. (original) The system of claim 21, wherein the television converter apparatus is programmed to receive updated middleware program code via a middleware PID processor.

24. (original) The system of claim 23, wherein the middleware PID processor does not extract any other stream from the merged stream except the stream containing the updated middleware program code.

25. (currently amended) A method for operating a headend system, comprising the steps of:

445632-1

Serial No. 10/025,055

Page 6 of 15

receiving a plurality of separate MPEG input streams;

merging the plurality of separate input streams and outputting a merged stream that is capable of being processed by a single PID processor in a television converter apparatus;

wherein the plurality of input streams include a first stream having NET PID data and a second stream having headend management system polling data.

26. (original) The method of claim 25, wherein at least one of the input streams contains DCII data.

27. (original) The method of claim 26, wherein the merging step includes splitting at least one DCII packet in at least two portions across at least two MPEG-2 packets within one of the at least two input streams.

28. (original) The method of claim 27, wherein the merging step includes a step of excluding from the merged stream any received packets that precede a first packet having a start bit that is set.

29. (original) The method of claim 25, wherein the headend has a plurality of buffers, and the merging step includes only transmitting data from one of the buffers at a time its to an output.

30. (original) The method of claim 29, further comprising continuing to transmit data from the one of the buffers that is currently transmitting data to the output until transmission of a DCII packet is completed.

31. (original) The apparatus of claim 30, further comprising continuing to transmit data from the same one of the buffers that is currently transmitting data after transmission of the DCII packet is completed, if a second DCII packet begins within the same MPEG packet as the DCII packet.

32. (original) The apparatus of claim 30, further comprising transmitting data from

445632-1

Serial No. 10/025,055

Page 7 of 15

a next one of the buffers when an end of a DCII packet contained within an MPEG packet is transmitted to the output, if the MPEG packet does not contain the start of a second DCII packet immediately following the DCII packet.

33. (original) The apparatus of claim 15, wherein the output filter updates MPEG continuity counters of the merged stream.